

How Your Brain Understands What Your Ear Hears		
North Carolina Standard Course of Study – Science: Grades 6, 7, 8		
Lesson	Competency Goal	Description
3, 4, 5	1.01	Identify and create questions and hypotheses that can be answered through scientific investigations.
3, 4, 5	1.02	Develop appropriate experimental procedures for: given questions and student generated questions.
3, 4	1.03	Apply safety procedures in the laboratory and in field studies: recognize potential hazards, manipulate materials and equipment, and conduct appropriate procedures.
3, 4, 5	1.04	Analyze variables in scientific investigations: identify dependent and independent, use of a control, manipulate, describe relationships between, and define operationally.
All lessons	1.05	Analyze evidence to: explain observations, make inferences and predictions, and develop the relationship between evidence and explanation.
3, 5	1.06	Use mathematics to gather, organize, and present quantitative data resulting from scientific investigations: measurement, analysis of data, graphing, and prediction models.
3, 4	1.07	Prepare models and/or computer simulations to: test hypotheses and evaluate how data fit.
All lessons	1.08	Use oral and written language to: communicate findings and defend conclusions of scientific investigations.
3, 4	1.09	Use technologies and information systems to: research, gather and analyze data, visualize data, and disseminate findings to others.
1, 5	1.10	Analyze and evaluate information from a scientifically literate viewpoint by reading, hearing, and/or viewing: scientific text, articles, and events in the popular press.
All lessons	2.02	Use information systems to identify scientific needs, human needs, or problems that are subject to technological solution.
4, 5	4.02	Describe how systems within the human body are defined by the functions it performs. (7)
4, 5	4.03	Explain how the structure of an organ is adapted to perform specific functions within one or more systems. (7)
3, 4, 5	4.05	Analyze how an imbalance in homeostasis may result from a disruption in any human system. (7)

Source: <http://www.ncpublicschools.org/curriculum/ncscos>

All alignments are based on the curriculum standards as of 12/05.

NORTH CAROLINA ALIGNMENT FOR NIH SUPPLEMENT: HOW YOUR BRAIN UNDERSTANDS WHAT YOU'RE EAR HEARS

3, 4, 5	4.07	Explain the effects of environmental influences on human embryo development and human health including smoking, alcohol, drugs, and diet. (7)
2, 3, 4, 5	4.08	Explain how understanding human body systems can help make informed decisions regarding health. (7)
4	6.01	Describe cell theory: all living things are composed of cells, cells provide structure and carry on major functions to sustain life, some organisms are single cell; other organisms, including humans, are multi-cellular, and cell function is similar in all living things. (8)
4, 5	6.02	Analyze structures, functions, and processes within animal cells for: capture and release of energy, feedback information, dispose of wastes, reproduction, movement and specialized needs. (8)
1, 3, 4	6.03	Analyze sound as an example that vibrating materials generate waves that transfer energy: frequency, amplitude, loudness, how sound travels through different material, and form and function of the human ear. (6)
3, 4, 5	6.04	Evaluate data for qualitative and quantitative relationships associated with energy transfer and/or transformation (6)

North Carolina Standard Course of Study – Mathematics: Grades 6, 7, 8

Lesson	Competency Goal	Description
3	1.01	Develop and use ratios, proportions, and percents to solve problems. (7)
3, 5	1.02	Develop fluency in addition, subtraction, multiplication, and division of non-negative rational numbers: analyze computational strategies, describe the effect of operations on size, estimate the results of computations, and judge the reasonableness of solutions. (7)
3, 5	1.02	Develop flexibility in solving problems by selecting strategies and using mental computation, estimation, calculators or computers, and paper and pencil. (8)
3, 5	1.03	Develop flexibility in solving problems by selecting strategies and using mental computation, estimation, calculators or computers, and paper and pencil. (7)
3, 5	1.04	Develop fluency in addition, subtraction, multiplication, and division of non-negative rational numbers: analyze computational strategies, describe the effect of operations on size, estimate the results of computations, and judge the reasonableness of solutions. (6)
3, 5	1.07	Develop flexibility in solving problems by selecting strategies and using mental computation, estimation, calculators or computers, and paper and pencil. (6)

Source: <http://www.ncpublicschools.org/curriculum/ncscos>

All alignments are based on the curriculum standards as of 12/05.

NORTH CAROLINA ALIGNMENT FOR NIH SUPPLEMENT: HOW YOUR BRAIN UNDERSTANDS WHAT YOU'RE EAR HEARS

2, 3, 4, 5	4.01	Collect, organize, analyze, and display data to solve problems. (7 & 8)
3, 5	4.05	Solve problems involving two or more sets of data using appropriate statistical measures. (7)
3, 4, 5	4.06	Design and conduct experiments or surveys to solve problems; report and analyze results. (6)
3, 5	5.01	Identify, analyze, and create linear relations, sequences, and functions using symbols, graphs, tables, diagrams, and written descriptions. (7)
3, 5	5.04	Use graphs, tables, and symbols to model and solve problems involving rates of change and ratios. (6)
North Carolina Standard Course of Study – English/Language Arts: Grades 6, 7, 8		
Lesson	Competency Goal	Description
All lessons	1.03	Interact appropriately in group settings by: listening attentively, showing empathy, contributing relevant comments connecting personal experiences to content, monitoring own understanding of the discussion and seeking clarification as needed (6), responding appropriately to comments and questions, offering personal opinions confidently without dominating, giving appropriate reasons that support opinions, soliciting and respecting another person's opinion (7), shares personal reactions to questions raised, gives reasons and cites examples from text in support of expressed opinions, and clarifies, illustrates, or expands on a response when asked to do so, and asks classmates for similar expansion. (8)
All lessons	1.04	Reflect on learning experiences by: describing personal learning growth and changes in perspective, identifying changes in self throughout the learning process, and interpreting how personal circumstances and background shape interaction with text.
2, 3, 4, 5	3.02	Explore and analyze the problem-solution process by: studying problems and solutions within various texts and situations, utilizing the problem-solution process within various contexts/situations, constructing essays/presentations that respond to a given problem by proposing a solution that includes relevant details, and recognizing and/or creating an organizing structure appropriate to purpose, audience, and context. (7 & 8)
2, 3, 4, 5	3.03	Evaluate and create arguments that persuade by: understanding the importance of the engagement of audience by establishing a context, creating a persona, and otherwise developing interest, noting and/or developing a controlling idea that makes a clear and knowledgeable judgment, arranging details, reasons, and examples effectively and persuasively, anticipating and addressing reader/listener concerns and counterarguments, and recognizing and/or creating an organizing structure appropriate to purpose, audience, and context. (7 & 8)

Source: <http://www.ncpublicschools.org/curriculum/ncscos>

All alignments are based on the curriculum standards as of 12/05.

NORTH CAROLINA ALIGNMENT FOR NIH SUPPLEMENT: HOW YOUR BRAIN UNDERSTANDS WHAT YOU'RE EAR HEARS

North Carolina Standard Course of Study – Healthful Living: Grades 6, 7, 8		
Lesson	Competency Goal	Description
3, 4, 5	2.03	Advocate for appropriate measures to protect vision and hearing. (6)
3, 4, 5	2.04	Analyze how the interaction of individual behaviors, the environment, and other factors cause or prevent injuries. (7)
3, 4, 5	2.07	Predict the personal health consequences of global environmental problems. (8)
All lessons	3.02	Demonstrate effective verbal and nonverbal communication skills. (6)
4, 5	3.03	Demonstrate ways to communicate care, consideration, and respect of self and others. (6)
All lessons	10.03	Utilize time effectively to complete assigned tasks. (6)
All lessons	10.04	Work cooperatively and productively in a group to accomplish a set goal in both cooperative and competitive activities. (6 & 8)

Source: <http://www.ncpublicschools.org/curriculum/ncscos>

All alignments are based on the curriculum standards as of 12/05.